



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

PRO/019/008  
NC  
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355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

September 17, 1986

Mr. Blaine E. Saunders  
P.O. Box 853  
Moab, Utah 84532

FILE COPY

Dear Mr. Saunders:

Re: Initial Completeness and Technical Review of MR-1 Application, Kearl-Saunders Corporation, Dolores #5 Placer Mine, PRO/019/008, Grand County, Utah

The Division has completed the initial completeness and technical review of your permit application originally received July 23, 1986. Division technical staff members visited the proposed site of operations with you on August 21, 1986 to resolve some permitting questions and get a better understanding of the proposed minesite layout.

The following technical questions have resulted from the review of the application and must be addressed before the permitting process can continue.

HYDROLOGIC CONCERNS:

The proposed placer mining operation will process mineral bearing gravels by washing and screening only. No chemicals will be used in the operation. All process water will be recirculated through a two-cell sedimentation pond. No direct discharge is proposed. Investigations by the operator have indicated that the zone of mineral bearing gravels lies above the local water table except in the direct proximity of the river bed. Because the operation is located adjacent to the Dolores River, some additional contribution of suspended sediments and dissolved solids is expected to occur. However, it is anticipated that the contribution will be minor, and will not degrade the quality of the receiving waters.

Rule M-10(8)(11) - Drainages & Sediment Control - DMW

Due to the close proximity of the Dolores River, the operator must commit to leaving a buffer strip of undisturbed land between the mining operation and the river bed. The buffer strip should extend 50 feet inland from the river's seasonal high water mark.



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Such a practice will: 1) ensure that the erosion protection and streambank stabilization provided by the riparian vegetation is maintained and; 2) aid in reducing the transportation of sediments off site.

#### SOILS CONCERNS:

##### Rule M-10(14) SOILS - JSL

The operator proposes to remove and stockpile a mixture of both topsoil and four to five feet of overburden (subsoil). Soil samples were taken and analyzed to determine if the topsoil should be segregated, removed and stockpiled separately from the overburden removal and storage operation. Due to the limiting conditions of each major soil horizon, it is anticipated that if the soil materials were mixed, the resulting composite soil would prove to be no less productive than the existing premining environmental conditions.

Therefore, the Division finds the soil removal and redistribution plan to be technically adequate. However, the operator must commit to berming and stabilizing the soil stockpiles, and notifying the Division if and when the BLM submits a fertilizer recommendation for the site.

#### Supporting Data

Four soil samples collected by Division personnel have been analyzed and rated for topsoil substitute suitability. The topsoil (A horizon) consist of a 5 YR 6/3 loamy sand with a pH of 8.5 and a electrical conductivity (EC) reading of 0.90 mmhos/cm. This material has an overall "fair" rating. Analysis has also shown that the subsoil material has a "fair" rating. Whereas the A (0-5") horizon, C1 (5-14") horizon and the C3 (27-48") horizon have specific parameter ratings in the "poor" category, the C2 (14-27") horizons' lowest rating is in the "fair" category.

Horizon A1 (0-5") 5YR 6/3; Overall Rating: Fair

<u>Parameter</u>	<u>Data</u>	<u>Rating</u>
Texture	loamy sand	Fair
pH	8.5	Poor
EC	0.9	Good

Horizon C1 (5-14") 5 YR 5/3; Overall Rating: Fair

<u>Parameter</u>	<u>Data</u>	<u>Rating</u>
Texture	sandy loam	Good
pH	8.5	Poor
EC	9.5	Poor



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Horizon C2 (14-27") 5 YR 5/3; Overall Rating: Fair

<u>Parameter</u>	<u>Data</u>	<u>Rating</u>
Texture	sandy loam	Good
pH	8.2	Fair
EC	5.8	Fair

Horizon C3 (27-48") 5 YR 4/4; Overall Rating: Fair

<u>Parameter</u>	<u>Data</u>	<u>Rating</u>
Texture	sand	Poor
pH	7.9	Fair
EC	2.7	Good

BIOLOGY/VEGETATION CONCERNS:

Rule M-3(2)(e) - LK

The proposed seed mix does not meet the criteria of this section in that the species selected will not provide a quick, permanent protective cover because they are slow to establish. It is recommended that the following species be added to provide a quick cover to protect against erosion:

<u>Species</u>	<u>Rate*</u>
GRASSES	
<u>Agropyron riparium</u>	3.0
Streambank Wheatgrass	
<u>Elymus Junceus</u>	
Russian wildrye	2.0
FORBS	
<u>Melilotus officinalis</u>	1.0
Yellow sweetclover	
<u>Penstemon palmeri</u>	.25
Palmer penstemon	

\* Rate is pounds pure live seed for drill seeding. Double the rate for broadcast seeding. These species could also be used to stabilize topsoil stockpiles.

The operator has not provided specific detailed revegetation plans. Please indicate if seed will be drilled or broadcast? What season (time of year) will seeding occur? Seeding should take place as late in the fall as possible (late October-November).



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What type of mulch will be used and at what application rate? It is recommended that a hay mulch be used at 1.5 tons per acre and that the mulch be anchored by mechanical crimping or chemical tackifier.

Rule M-10(12) - Revegetation - LK

During a site visit on August 21, 1986 by Division personnel several transects were sampled to determine the level of vegetation cover to establish the revegetation success standard. The results of this sampling revealed a net vegetation cover of 21% (cover contributed by weedy species was not included).

The operator did not provide the vegetative cover information in the MR-1 application form. This cover level will be incorporated into the mine plan (Item 20 on Form MR-1 page 6) by the Division.

ENGINEERING CONCERNS:

Rule M-3(1)(g) - General Map Information - FJF

The operator must provide the location and size (volume) of the rock storage area as discussed in the application, page 4, #15(A)(2) and it must be shown on Map #5.

Rule M-3(2)(c) - Reclamation Plan - FJF

What method will be used to restore the rock and gravel to the bottom of the excavated pit area(s)? Where is the topsoil and overburden located that is to be excavated in building the two settling ponds? Will this material be placed in the overburden storage area or will it be used as berming/diking on the ponds?

Rule M-5 - Surety - FJF

Attachment #4 (Reclamation Cost Estimate) of the MR-1 application is based on reclaiming only 15% of the total area to be mined. The Reclamation Cost estimate must be based on a worst case scenario in which the topsoil and overburden for the entire area to be mined is to be restored to its original location.

The reclamation cost estimate must include costs for seed mixture, reclamation of the two settling ponds, and for restoring the maximum amount of gravel in the rock storage area to the excavated area. Please revise the bond estimate to reflect a worst case scenario and state what type of bond form will be posted. See attachments for examples of types of bond forms acceptable to the State Board of Oil, Gas and Mining.



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Attachment #4 lists 4 hours as the amount of time necessary to move 8000 cubic yards of overburden an average distance of 135 feet with a D-7 Caterpillar. Calculation based on the Caterpillar Performance Handbook indicate that 16 hours is a more reasonable estimate of the time required.

Attachment #4 also lists the cost of a D-7 caterpillar as \$60/hour. The Division uses the Rental Rate Blue Book and the 1986 Means Site Work Cost Data Book in calculating the hourly cost of equipment. Calculations based on these references give \$86/hour as the rental rate for a D-7 caterpillar. The Division will adjust the final bond calculations accordingly to reflect these cost differences.

Rule M-10(2)(d) - Public Safety and Welfare - FJF

The posting of appropriate warning signs must be provided in locations where public access to operations is readily available. Please indicate where these warning signs will be posted on a revised site location map.

Rule M-10(7) - Roads and Pads - FJF

The operator must indicate whether that part of the mine access road which is north of the Dolores River (@100 feet) will be reclaimed. If not, what are the post-reclamation plans for this disturbed area?

Title 40-8-13(1) - Liability Insurance - DWH

The operator must furnish evidence in the form of acceptable insurance policies or other factual data that the operator will be financially responsible during the proposed mining operations for the payment of off-site public liability or property damage claims for which he may become liable.

GENERAL CONCERNS & RECOMMENDATIONS:

As mentioned to you while technical staff members were onsite on August 21, 1986, the State Department of Health, Division of Environmental Health and the State Division of Water Rights have permitting requirements which most likely will effect your operation. If you haven't contacted their offices as of yet, they can be reached at the following numbers:

Mr. Marvin Maxell, Assistant Director  
Division of Environmental Health  
(801) 533-6121

Mr. Robert Morgan, State Engineer  
Division of Water Rights  
(801) 533-6071

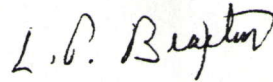


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Before the Division can proceed with public notice of tentative approval for this proposal, the foregoing concerns must be resolved. We understand your concern over the unexpected delay in the permitting process and apologize for any confusion and inconvenience which may have resulted. We will make every effort to try and expedite the processing of your permit application where it is possible.

Thank you for your patience and cooperation in completing this permitting action. Should you have any questions or concerns please call me, D. Wayne Hedberg or David Wham of the permitting staff at (801) 538-5340.

Sincerely,



L. P. Braxton  
Administrator  
Mineral Resource Development  
and Reclamation Program

DWH:jvb  
cc: Marv Maxell, State Health  
Teresa McParland, BLM, Grand Resource Area  
Bob Morgan, Water Rgts.  
Frank Filas  
Wayne Hedberg  
Lynn Kunzler  
Jim Leatherwood  
Dave Wham  
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